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DESCRIPTION OF THREE NEW SPECIES OF *NEONELLA* (ARANEAE, SALTICIDAE)

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ABSTRACT. Three new species of *Neonella* Gertsch 1936 are described: ***Neonella mayaguez*** from Puerto Rico, ***Neonella colalao*** and ***Neonella cabana*** from Argentina. The female of *Neonella antillana* Galiano 1988 is described for the first time.

RESUMEN. Se describen tres nuevas especies de *Neonella* Gertsch 1936: ***Neonella mayaguez*** de Puerto Rico, ***Neonella colalao*** y ***Neonella cabana*** de Argentina. La hembra de *N. antillana* Galiano 1988 se describe por primera vez.

The genera *Neon* Simon 1876, *Darwinneon* Cutler 1971 and *Neonella* Gertsch 1936 include the smallest salticids known. The biggest females reach only 2 mm in body length, and the males are smaller. *Neonella* contains at present six species (Gertsch 1936; Galiano 1965, 1988), two of them described from only one sex: *N. antillana* Galiano 1988 and *N. montana* Galiano 1988. In the present paper, the female of *N. antillana* is described for the first time and three new species are described: ***Neonella mayaguez*** new species from Puerto Rico, ***Neonella colalao*** new species and ***Neonella cabana*** new species from Argentina.

Few references to the natural history of *Neonella* species are known. When information has been given by the collectors, it is said that the specimens have been found on the ground, in leaf litter, and under bark or rocks. Of all spiders the most poorly known are probably those which occur in leaf litter, moss and similar surface habitats in tropical and subtropical areas. The limited data about this fauna justified the description of new species based on unique specimens. *Neonella colalao* and *N. cabana* are distinguished from the other species by the tegular pectinate process and by the presence of a male palpal patellar apophysis. However, there are other characters such as body shape, color pattern, cheliceral teeth and leg spination that would place these species within *Neonella*. They may eventually be moved to another genus when the females are studied.

METHODS

The format of the descriptions follows Galiano (1963); leg spination is described as in Platnick & Shadab (1975) with small changes. It is difficult to distinguish spines from hairs on the posterior pairs of legs, so the description is tentative. All measurements are in millimeters. *Abbreviations:* AME, ALE, PME and PLE: anterior median eyes, anterior lateral eyes, posterior median eyes and posterior lateral eyes, respectively; v = ventral, p = prolateral, r = retrolateral, ap = apical; CR = cephalic region; TR = thoracic region; MACN: Museo Argentino de Ciencias Naturales "Bernardino Rivadavia"; MCZ: Museum of Comparative Zoology, Harvard University.

Neonella antillana Galiano 1988
(Fig. 1)

Neonella antillana Galiano 1988: 444. Male holotype (MCZ) from West Indies, Jamaica, St. Andrews. Richard Reservoir, examined; Platnick 1993: 787.

Diagnosis.—*Neonella antillana* differs from *N. vinnula* Gertsch 1936 in having the copulatory openings inside pockets deeper and nearer to each other than in *vinnula*, the copulatory ducts thinner than in this species and divergent, and the spermathecae spherical, contiguous.

Description.—*Female:* Body length 1.77. Carapace length 0.73, width 0.55, height 0.24. Ocular quadrangle length 0.37, first row width 0.57, third row width 0.58. Distances ALE-PME 0.09, PME-PLE 0.05. Eye diameters:

AME 0.17, ALE 0.13, PLE 0.11. Leg spination: Tibiae I v 2-2, II v 1r-1r, III v 1p. Metatarsi I v 2-2, II v 1r-2, III 3ap; IV 1r ap. Epigynum: Fig. 1. Color: carapace light brown, with narrow dark brown marginal band. Clypeus dark brown. CR dark brown; TR with a yellow median longitudinal band with a blackish narrow band on each border. Abdomen with two dark brown dorsal longitudinal bands and a yellow longitudinal median band between them. Legs yellowish-brown with dark brown patches on distal parts of femora, patellae, tibiae and metatarsi. Palps blackish-brown, with yellow tarsi and dorsal patellae and tibiae light brown.

Material examined.—**WEST INDIES.** *JAMAICA:* Clarendon Parish, Salt River, 24 November 1963, 1♀ (A.M. Chickering)(MCZ); St. Andrews, Mona Heights, 25 November 1963, 1♂ (A.M. Chickering) (MCZ).

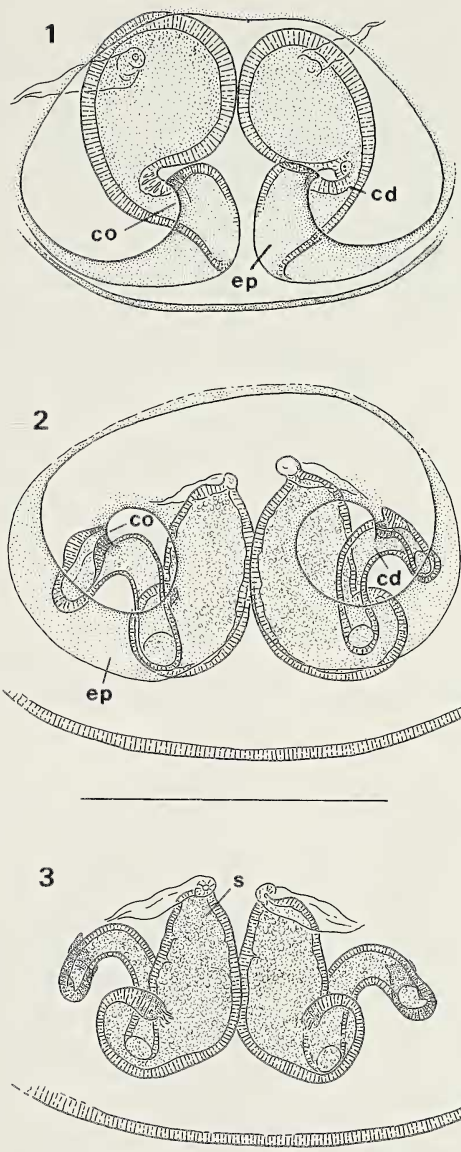
Neonella mayaguez new species
(Figs. 2, 3)

Holotype.—Female from Puerto Rico. Mayagüez: University Campus, 23 January 1964 (A.M. Chickering) (MCZ).

Etymology.—A noun in apposition, after the type locality.

Diagnosis.—*Neonella mayaguez* differs from *N. vinnula* and *N. antillana* in having the copulatory openings farther from the epigastric furrow at the middle of the epigynum and external to the spermathecae.

Description.—Body length 1.67. Carapace length 0.69, width 0.52, height 0.37. Clypeus height 0.01. Ocular quadrangle length 0.32, first row width 0.53, third row width 0.52. Distances ALE-PME 0.09, PME-PLE 0.07. Eye diameters: AME 0.15, ALE 0.10, PLE 0.09. Leg spination: Tibiae I v 2-2; II v 1r-1r; III v 1r-1p. Metatarsi I, II v 2-2; III, IV 3ap. Epigynum: epigynal pockets contiguous; copulatory openings at the sides of the epigynal plate and far from the epigastric furrow (Fig. 2); spermathecae tubular, contiguous (Fig. 3). Color: carapace light brown, CR blackish with few reddish brown hairs; RT with yellow lateral marginal bands and a median longitudinal band. Abdomen blackish-brown with three yellow longitudinal bands, the median one being wider; sides and venter yellow. Legs yellow, blackish bands on prolateral sides on femora, and transversely distal on patellae and tibiae. Palps yellow, lateral sides blackish.

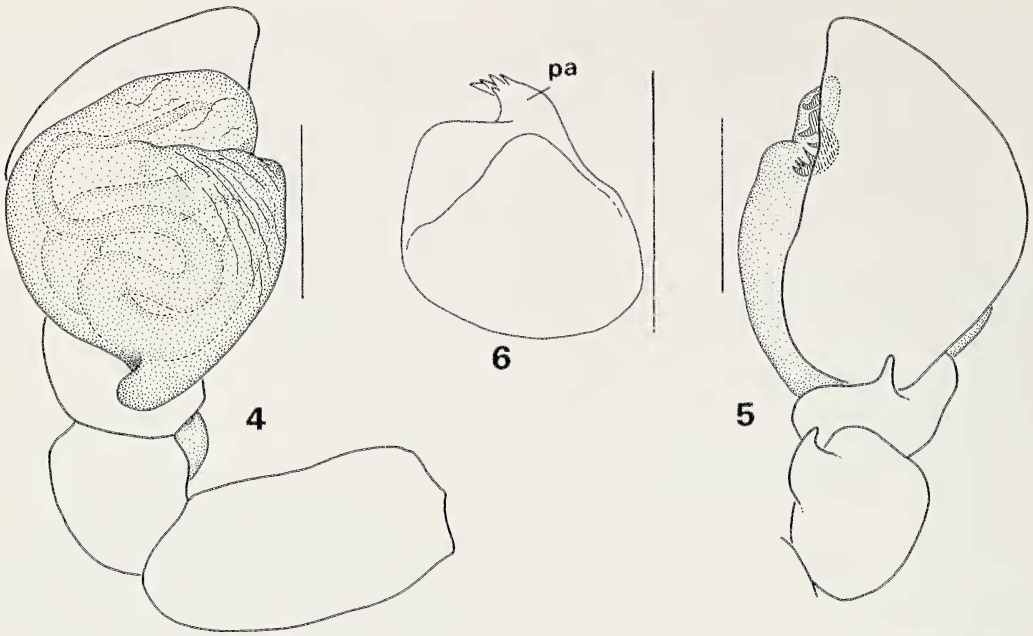


Figures 1–3.—Epigyna of species of *Neonella*. 1, *Neonella antillana*, ventral view. 2, 3. ***Neonella mayaguez*** new species. 2, Ventral view; 3, Dorsal view. Scale = 100 μm. (co = copulatory opening; cd = copulatory duct; ep = epigynal pocket; s = spermatheca).

Material examined.—Only the holotype.

Neonella cabana new species
(Figs. 4–6, 11, 12)

Holotype.—Male from Argentina, Córdoba Province: Cabana, July 1950 (M. Birabén) (# 9557 MACN).



Figures 4–6.—Left palp of ***Neonella cabana*** new species. 4, Ventral view; 5, Retrolateral view; 6, Patella, prolateral view showing internal face of patellar apophysis. Scales = 100 μm. (pa = patellar apophysis).

Etymology.—A noun in apposition, after the type locality.

Diagnosis.—*Neonella cabana* and *N. colalao* new species can be distinguished from all the other species of the genus by the pectinate process on the apical division of the tegulum and by the presence of a retrolateral apophysis on palpal patella. *Neonella cabana* differs from *N. colalao* by the blunt embolic apex (no terminal rami), by the almost spherical tegular apical division and by thinner and apparently more numerous teeth of the pectinate process.

Description.—Carapace length 0.70, width 0.49, height 0.31. Clypeus height 0.02. Ocular quadrangle length 0.31, first row width 0.51, third row width 0.50. Distances: ALE-PME 0.07, PME-PLE 0.04. Eye diameters: AME 0.15, ALE 0.11, PLE 0.10. Leg spination: Tibiae I v 2-1r; II v 1r-1r; III, IV v 1p. Metatarsi I, II v 2-2; III, IV 3ap. Palp: (Figs. 4–6, 11, 12). Patellar apophysis with small acute teeth on the internal side; tibial apophysis with parallel sides, a little longer than in *N. colalao*. Apical division of the tegulum spheroidal; embolus lamellar, a little curved, distal end blunt with the terminal opening of the seminal duct in the border. Pectinate process with a wide base and about ten long and sharp teeth. Color: carapace light brown; CR blackish with few brown hairs regularly distributed; TR with a median longitudinal yellow band. Clypeus blackish. Abdomen with bright reddish-yellow dorsal scutum with few brown hairs; a dense tuft of white plumose hairs at the apical end, covering the anal tubercle; sides of the abdomen yellow, with brown hairs more dense than the dorsal. Epigastric area sclerotized; no ventral scutum. Legs yellowish-brown, with blackish bands on sides of femora and tibiae I and II.

Material examined.—Only the holotype.

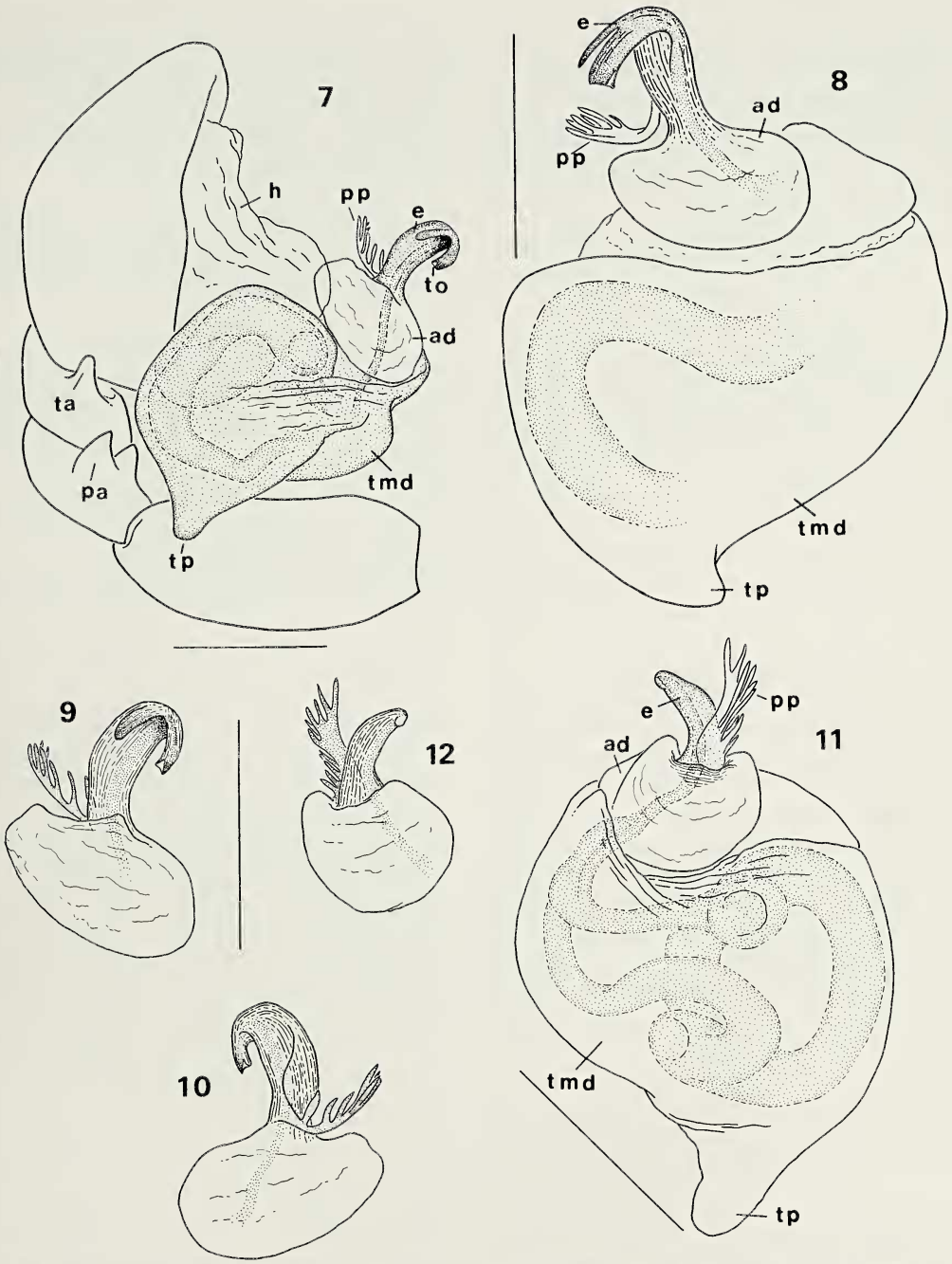
Note.—*Neonella cabana* might be *N. montana* Galiano 1988, which was described after a female whose epigynum has small differences from the typical *Neonella*.

Neonella colalao new species
(Figs. 7–10)

Holotype.—Male from Argentina, Tucumán Province: San Pedro de Colalao (4 km W road to Hualinchay), November 1994 (M. J. Ramírez) (# 9556 MACN).

Etymology.—A noun in apposition, after the type locality.

Diagnosis.—*Neonella colalao* differs from



Figures 7–12.—Palps of species of *Neonella*. 7–10, ***Neonella colalao*** new species. 7, Retrolateral view of the right palp with expanded bulb. 8, Bulb, ventral view; 9, Apical division, retroventral view; 10, Dorsal view. 11, 12, ***Neonella cabana*** new species. 11, Ventral view of the left bulb; 12, Apical division, dorsal view. Scales = 100 μm. (ad = tegular apical division; e = embolus; h = hematodocha; pa = patellar apophysis; pp = pectinate process; ta = tibial apophysis; tmd = tegular median division; to = terminal opening of the sperm duct; tp = tegular process).

N. cabana by having two terminal rami on the embolus.

Description.—Body length 1.60. Carapace length 0.71, width 0.52, height 0.31. Clypeus height 0.02. Ocular quadrangle length 0.34; first row width 0.53, third row width 0.54. Distances: ALE-PME 0.07, PME-PLE 0.05. Eye diameters: AME 0.18, ALE 0.12, PLE 0.11. Leg spination: Tibiae III v 1p. Metatarsi I v 1r-1r; II v 2 ap; III, IV 2ap. Palp: (Figs.7–10). A conical retrolateral apophysis on patella, with several denticles on its inner face; retrolateral tibial apophysis short. Tegular median division with a conical process that covers the ventral side of tibia; apical division as a transverse membranous ovoid from whose distal and dorsal side (that touches the cymbium) arises the embolus. Embolus lamellar, a little curved, with two subequal apical rami that curve to the base. On the tip of the prolateral ramus is the terminal opening of the sperm duct. Near the base of the embolus but arising from the apical division is a pectinate process. Color: carapace yellow, narrow black marginal band, wider yellow submarginal band; CR blackish, TR blackish on the anterior half and with blackish spots on the thoracic slope at the sides of a median yellow band. Clypeus dark brown. Abdomen yellow with blackish dispersed spots; dorsal scutum bright yellow; sides yellow; at the dorsal end of the abdomen, covering the anal tubercle, a dense tuft of white plumose hairs. Both sides of pedicel black. Venter yellow, with two black lateral bands; a black ring around the base of the spinnerets. Epigastric area sclerotized, no ventral scutum. Legs translucent, yellow, with distal dorsal blackish bands on patellae, tibiae and metatarsi.

Material examined.—Only the holotype.

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